

Calendar

Tuesday, January 24

3:30 p.m. Director's Coffee Break -
2nd Flr X-Over

4:00 p.m. There will be no accelerator
physics and technology seminar today.

Wednesday, January 25

11:00 a.m. Fermilab ILC R&D Meeting -
1 West

Speaker: H. Carter, Fermilab
Title: Summary of the ILC Cryomodule
Working Group Meeting held at CERN

3:30 p.m. Director's Coffee Break - 2nd
Flr X-Over

4:00 p.m. Fermilab Colloquium - 1 West
Speaker: F. Rasio, Northwestern
University

Title: The Million-Body Problem: Particle
Simulations in Astrophysics

Weather



Chance of Snow **39%/21°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

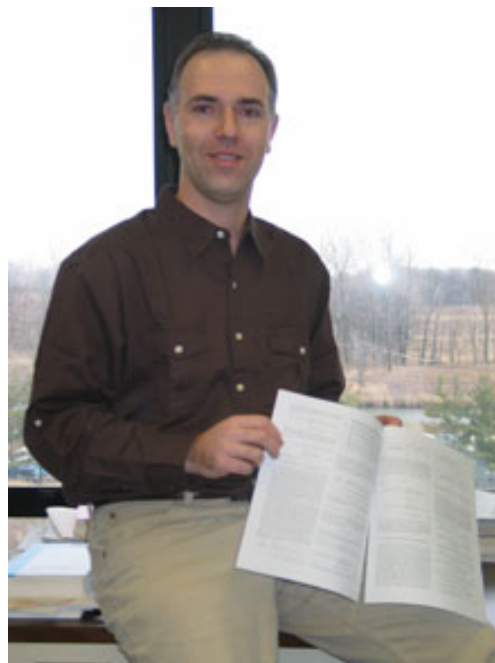
[Secon Level 3](#)

Wilson Hall Cafe

All Hands Meeting Friday 1:30 p.m. Ramsey Auditorium

Pier Oddone will announce an important
new appointment at the laboratory at an
All Hands meeting on Friday, January 27
at 1:30 p.m. in Ramsey Auditorium. He
will also discuss the state of the
laboratory and the on-going analysis of
the laboratory organization, with plenty of
time for questions and answers. Overflow
seating will be available in One West,
with audio and video provided.

They Came From an Extra Dimension... or Two



Theoretical physicist Bogdan Dobrescu finds
the top quark "a great tool" to search for
extra dimensions.

Director's Corner

EPP2010

Yesterdy I spent a couple of hours in
discussions with

[EPP2010](#), the
committee of the
National Academy
that has been
charged by DOE and
NSF to give advice
on the future



[Pier Oddone](#)

program for Particle
Physics. I was very thankful to the
committee and its chair, Professor Harold
Shapiro of Princeton University, for the
invitation to join the committee. It gave
me the opportunity to present and
discuss in detail our ideas for the future
program at Fermilab and to answer
questions on the issues that have arisen
in the committee's mind in connection
with our plans. I was very impressed with
the depth of the committee's questions
and the level of the discussion. It is clear
that in the many months that EPP2010
has been at work, the committee has
reached a deep level of understanding of
the strategic issues of our field and the
difficult decisions that we confront. It was
also clear to me that there is a genuine
feeling of support and enthusiasm for the
field and that the committee is exercising
great care in reaching its
recommendations.

As I have mentioned in a previous
column, the recommendations of this
committee will be critical for the future
development of particle physics in our
country since the recommendations will

Tuesday, January 24

-Chicken & Rice Soup
 -Cowboy Burger
 -Baked Meatloaf w/a Roasted Tomato Demi-Glace
 -Parmesan Baked Fish
 -Peppered Beef
 -Ham & Pastrami Calzones
 -South of the Border Burritos w/Chips & Queso

The Wilson Hall Cafe accepts Visa, Master Card, Discover and American Express.

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, January 25****Lunch**

-Poached Salmon with Scallion Sauce
 -Vegetable Medley
 -Long Grain Rice
 -Yogurt Cake with Raspberry Sauce

Thursday, January 26**Dinner**

-French Onion Soup
 -Grilled Swordfish with Tomato White Butter Sauce
 -Broccoli with Lemon Zest
 -Saffron Rice
 -Marzipan with Chocolate Sauce

[Chez Leon Menu](#)

Call x4512 to make your reservation.

Search**Search the Fermilab Today Archive****Info**

Although we seem to live in three spatial dimensions, physicists study the possibility of other dimensions which are hidden because they are too small to see. "Particularly interesting are the so-called universal extra dimensions, in which all known particles can propagate," said Fermilab theoretical physicist Bogdan Dobrescu. "If universal extra dimensions exist, then for each of the elementary particles we know, there would be a whole family of heavier particles with similar properties, called Kaluza-Klein modes."

New predictions for the experimental signatures of universal extra dimensions have been made this week in a paper titled "Resonances from Two Universal Extra Dimensions," which is now available on the [hep-ph archive](#).

Dobrescu authored the study with two former Fermilab postdocs, Gustavo Burdman (University of Sao Paulo in Brazil) and Eduardo Ponton (Columbia University). They spent more than a year computing the masses of these Kaluza-Klein modes and all their interactions. The researchers predict that when these heavier particles decay, they produce a very specific signal: a top quark and an anti-top quark, with energies matching the mass of the Kaluza-Klein mode.

"It's interesting that now, ten years after the top quark discovery, we find that the top quark is a great tool in the search for something as exciting as extra dimensions," said Dobrescu. "Two universal extra dimensions would explain certain basic facts about nature, including the stability of the proton, the origin of dark matter, and the existence of three 'generations' of quarks and leptons." Dobrescu points out that this is

represent a broader view and more impartial advice than the usual advice we get from our own expert committees. Advice that comes from our own community has been likened to asking the teamsters if they need more trucks. Of course they do!

In my visit with Professor Harold Shapiro in Princeton last Tuesday I learned that the committee will finish its report in March and then the report will go through the usual reviews within the Academy before it is released. It will be an exciting moment when the report is finally unveiled and we learn the recommendations of EPP2010!

Accelerator Update**January 20 - 23**

- Tevatron cooldown is underway.
[Read the Current Accelerator Update](#)
[Read the Early Bird Report](#)
[View the Tevatron Luminosity Charts](#)

Announcements**Unix Users Meeting**

There will be a Unix Users Meeting tomorrow (January 25) from 1 p.m.- 3 p.m. in Curia II. On the agenda are security announcements for the month, Linux updates, and other tips and tricks like creating origami Fermi Linux CD covers.

Scottish Country Dancing

Scottish Country Dancing will meet Tuesday, January 23, at Kuhn Barn on the Fermilab site. Instruction begins at 7:30 p.m. and newcomers are always welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. Info at 630-840-8194 or 630-584-0825 or folkdance@fnal.gov.

Fermilab Today is online at: <http://www.fnal.gov/today/>

Send comments and suggestions to today@fnal.gov

[Fermilab Today archive](#)

[Fermilab Today PDF Version](#)

[Fermilab Result of the Week archive](#)

[Fermilab Safety Tip of the Week archive](#)

[Linear Collider News archive](#)

[Fermilab Today classifieds](#)

[Subscribe/Unsubscribe to Fermilab Today](#)

a particularly thrilling time at Fermilab. "Our wild theoretical ideas about physics at the energy frontier are just about to be tested experimentally by the DZero and CDF collaboration," he said. Dobrescu, who was promoted to Scientist I in October 2005, anticipates that the Large Hadron Collider (LHC) scheduled to begin operation at CERN in 2007 will further test the existence of extra dimensions.

—*Dawn Stanton*

In the News

From **CQ.com**, **January 16, 2006:** **Science on a Shoestring**

Sometime next year, the world's attention will focus on Geneva, where scientists will switch on the Large Hadron Collider, an underground atom smasher more powerful than anything to come before it. By bashing protons together at ultra-high speeds, researchers hope to get closer to discovering the origins of the universe — perhaps leading to breakthroughs in our knowledge of matter and energy that will rival Einstein's theory of relativity.

One milestone sure to occur when the LHC boots up: The United States will no longer be the leader in high-energy physics research.

[Read More](#)

Professional Development Schedule:

January 31: Adobe Acrobat 7.0

Professional

February 1: Excel Shortcuts

February 7: Interpersonal Communication Skills

February 14 & 16 (am): Creating RPMs

March 1: Word Tips, Tricks and Techniques

March 6: Interpersonal Communication Skills

March 7 (am): Excel Pivot Tables

March 7 (pm): Word Mail Merge

March 8: Excel 2003 Advanced

March 14: Excel Power User / Macros

March 21 & 22: Intro to Dreamweaver MX

March 28 & 30 (am): Creating RPMs

[More information](#)

[Upcoming Activities](#)